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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/936,624	LEAR ET AL.	
	Examiner	Art Unit	
	MARK A. MAIS	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 25 June 2008.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-5,7-39,46 and 47 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-5,7-39,46 and 47 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 05 February 2002 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☒ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: it omits comparing the trace routes between the management center and the at least one node. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-39, 46, and 47 are rejected under 35 U.S.C. 102(e) as being anticipated by Brady et al. (USP 5,808,607).

4. With regard to claim 1, Brady et al. discloses a system for efficient distribution of data to a client **[Fig. 1, user 16]** through a distributed computer network **[Fig. 1, multiple networks]**, comprising:

a management center **[Fig. 1, interpreted as the combination of host 12 and host/server interface node 22; the functionality of both are interchangeable, col. 4, lines 40-42]** connected to the network **[Fig. 1, Network 52 and ATM network 14]** for determining an optimal delivery route **[Fig. 3, host 12 maintains tables to enable node assignment and scheduling functions such as node loading (e.g., exceeding node capacity), col. 4, lines 33-53 (interpreted as optimal delivery route); originating nodes I/O switch 94 (of node 22) also performs best route function, col. 9, lines 2-13; host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25]** to the client **[Fig. 1, user 16]** and directing the data along the optimal delivery route **[Fig. 1, host 12 chooses node 36 to deliver content, col. 6, lines 13-22; shortest path and three alternate paths, col. 9, lines 27-30; e.g., I/O switch 94 selects the best communication link 96 out of multiple links, col. 9, lines 2-4; this is interpreted as a comparison of the shortest paths as well as a comparison of the "best" (i.e., optimal) paths]**; and

at least one node connected to the network **[Fig. 1, ATM interface/data store node 36]** for relaying the data for delivery to the client **[Fig. 1, user 16]**;

wherein the management center **[Fig. 1, interpreted as the combination of host 12 and host/server interface node 22; the functionality of both are interchangeable, col. 4, lines 40-42]** comprises a mapping engine **[Fig. 1, host 12]** for mapping trace routes between the

management center and the at least one node **[Fig. 3, communication links 96, col. 8, line 66 to col. 9, line 6]** and *trace routes* between the management center and the client **[Fig. 1, host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25]** *and for comparing the trace routes between the management center with the trace routes between the management center and the client* in order to determine the optimal delivery route. **[Fig. 1, host 12 chooses node 36 to deliver content, col. 6, lines 13-22; shortest path and three alternate paths, col. 9, lines 27-30; e.g., I/O switch 94 selects the best communication link 96 out of multiple links, col. 9, lines 2-4; this is interpreted as a comparison of the shortest paths as well as a comparison of the "best" (i.e., optimal) paths]**.

5. With regard to claim 2, Brady et al. discloses that at least one node buffers the data before replicating a plurality of the data for delivery to multiple clients **[the data blocks are buffered in node 36, col. 6, lines 43-55; for multiple users, col. 8, line 56 to col. 7, line 2; for large requests, node 38 then buffers the data that is in the node 36 buffers]**.

6. With regard to claim 3, Brady et al. discloses that at least one node buffers the data before replication **[the data blocks are buffered in node 36, col. 6, lines 43-55; for multiple users, col. 8, line 56 to col. 7, line 2; for large requests, node 38 then buffers the data in the node 36 buffers]**.

7. With regard to claim 4, Brady et al. discloses at least one content provider **[Fig. 1, node 24]**, the content provider providing at least one stream of data to the network **[Fig. 1, node 24**

(accesses its direct access storage disks (DASD) 28 and 30 and) provides the content, col. 6, lines 28-34].

8. With regard to claim 5, Brady et al. discloses at least one zone master for assisting the management center with managing downstream nodes **[Fig. 1, host 12; manages multiple user requests, col. 6, lines 56-57; one zone is interpreted as one user 16]**.

9. With regard to claim 6, Brady et al. discloses that the management center further comprises a mapping engine **[Fig. 1, host 12]** for mapping trace routes between the management center, at least one node and the client in order to determining the optimal delivery route **[Fig. 3, host 12 maintains tables to enable node assignment and scheduling functions such as node loading (e.g., exceeding node capacity), col. 4, lines 33-53 (interpreted as optimal delivery route); originating nodes I/O switch 94 (of node 22) also performs best route function, col. 9, lines 2-13; host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25]**.

10. With regard to claim 7, Brady et al. discloses that the management center further comprises a content manager **[Fig. 1, host 12]** for managing registration of content provider details **[host 12 establishes assignment of nodes (i.e., content providers) to movies, col. 6, lines 13-14; host 12 can even get additional nodes, col. 8, lines 1-5]**.

11. With regard to claim 8, Brady et al. discloses that the management center further comprises a node controller **[Fig. 1, host 12]** for monitoring and informing the at least one node **[Fig. 1, host 12 monitors node 36 output capacity, col. 5, lines 11-33]**.

12. With regard to claim 9, Brady et al. that the management center further comprises a log management controller **[Fig. 1, host 12]** for compiling and processing log statistics received from the at least one node **[Fig. 1, host 12 gets assembled status information (interpreted as statistics) from node 36, col. 6, line 56 to col. 7, line 2]**.

13. With regard to claim 10, Brady et al. that the management center further comprises an interface engine **[Fig. 1, host 12]** for allowing access to management center databases **[host 12 maintains multiple tables, col. 4, lines 40-54]**.

14. With regard to claim 11, Brady et al. discloses that the data is distributed via channels **[transmission channel(s), col. 6, lines 23-25]**.

15. With regard to claim 12, Brady et al. discloses that the data is time-staggered versions of identical content to achieve virtual fast-forward and rewind **[the data blocks are buffered in node 36, col. 6, lines 43-55; for multiple users, col. 8, line 56 to col. 7, line 2; for large requests, node 38 then buffers the data in the node 36 buffers (i.e., time-staggered content)]**.

16. With regard to claim 13, Brady et al. discloses that clients are delivered local content at predetermined or incident-invoked times for a predetermined duration **[host 12 provides real-time assignment of viewers to node ports (i.e., local content) upon receiving requests to view movies (movies have a known duration), col. 4, lines 56-57]**.

17. With regard to claim 18, Brady et al. discloses that the data is on-demand content **[on demand video, col. 1, line 38]**.

18. With regard to claim 19, Brady et al. discloses a system for distributing a single stream of data from a content provider through a distributed computer network **[Fig. 1, multiple networks]** to a plurality of clients **[Fig. 1, users 16]** within a class IP address range, comprising:

a management center **[Fig. 1, interpreted as the combination of host 12 and host/server interface node 22; the functionality of both are interchangeable, col. 4, lines 40-42]** connected to the network **[Fig. 1, Network 52 and ATM network 14]** for determining optimal delivery *route*s **[Fig. 3, host 12 maintains tables to enable node assignment and scheduling functions such as node loading (e.g., exceeding node capacity), col. 4, lines 33-53 (interpreted as optimal delivery route); originating nodes I/O switch 94 (of node 22) also performs best route function, col. 9, lines 2-13; host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25]** to the plurality of clients **[Fig. 1, users 16]** and directing the stream of data along the optimal delivery *route*s **[Fig. 1, host 12 chooses node 36 to deliver content, col. 6, lines 13-22; shortest path and three alternate paths, col. 9, lines 27-30; e.g., I/O switch 94 selects the best communication link 96 out of multiple links, col. 9, lines 2-4;**

this is interpreted as a comparison of the shortest paths as well as a comparison of the "best" (i.e., optimal) paths];

wherein the management center **[Fig. 1, interpreted as the combination of host 12 and host/server interface node 22; the functionality of both are interchangeable, col. 4, lines 40-42]** comprises a mapping engine **[Fig. 1, host 12]** for mapping trace routes between the management center and a plurality of nodes **[Fig. 1, ATM interface/data store nodes 36 and 38]** and for mapping trace routes between the management center and each of the plurality of clients **[Fig. 3, communication links 96, col. 8, line 66 to col. 9, line 6; Fig. 1, host 12 determines if a transmission channel to users 16 exists, col. 6, lines 23-25]** in order to determine a first optimal node in the first optimal delivery route to a first client **[Fig. 3, communication links 96, col. 8, line 66 to col. 9, line 6; Fig. 1, host 12 determines if a transmission channel to users 16 exists, col. 6, lines 23-25]** and to determine a second optimal delivery route to a second client **[Fig. 3, communication links 96, col. 8, line 66 to col. 9, line 6; Fig. 1, host 12 determines if a transmission channel to users 16 exists, col. 6, lines 23-25]**

the first optimal node being connected to the network for replication of the stream of data for delivery to the first client **[the data blocks are buffered in node 36, col. 6, lines 43-55; for multiple users, col. 8, line 56 to col. 7, line 2; for large requests, node 38 then buffers the data that is in the node 36 buffers]**; and

the second optimal node being connected to the network for replication of the stream of data for delivery to *the* second client **[the data blocks are buffered in node 36, col. 6, lines 43-55; for multiple users, col. 8, line 56 to col. 7, line 2; for large requests, node 38 then buffers the data that is in the node 36 buffers]**.

19. With regard to claim 20, Brady et al. discloses that the first and second optimal nodes are the same **["same" interpreted as they are both ATM interface/data store nodes]**.

20. With regard to claim 21, Brady et al. discloses that the first and second optimal nodes replicate a plurality of the stream of data for delivery to the plurality of clients **[the data blocks are buffered in node 36, col. 6, lines 43-55; for multiple users, col. 8, line 56 to col. 7, line 2; for large requests, node 38 then buffers the data that is in the node 36 buffers]**.

21. With regard to claim 22, Brady et al. discloses a method for distribution of data to a client **[Fig. 1, user 16]** through a computer network **[Fig. 1, Network 52 and ATM network 14]**, comprising the steps of:

determining an optimal delivery route **[Fig. 3, host 12 maintains tables to enable node assignment and scheduling functions such as node loading (e.g., exceeding node capacity), col. 4, lines 33-53 (interpreted as optimal delivery route); originating nodes I/O switch 94 (of node 22) also performs best route function, col. 9, lines 2-13; host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25; Fig. 1, host 12 chooses node 36 to deliver content, col. 6, lines 13-22; shortest path and three alternate paths, col. 9, lines 27-30; e.g., I/O switch 94 selects the best communication link 96 out of multiple links, col. 9, lines 2-4; this is interpreted as a comparison of the shortest paths as well as a comparison of the "best" (i.e., optimal) paths]** from a content provider **[Fig. 1, ATM interface/data store node 36]** to a client **[Fig. 1, user 16]**;

wherein determining the optimal delivery route comprises mapping trace routes **[Fig. 3, communication links 96, col. 8, line 66 to col. 9, line 6]** between a management center **[Fig. 1, interpreted as the combination of host 12 and host/server interface node 22]** and a plurality of nodes **[Fig. 1, ATM interface/data store nodes 36 and 38]** and **[Fig. 1, host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25]** between the management center and the client **[Fig. 1, user 16]** to determine an optimal node; transmitting a data stream from the content provider through the network **[Fig. 1, host 12 chooses node 36 to deliver content, col. 6, lines 13-22; shortest path and three alternate paths, col. 9, lines 27-30; e.g., I/O switch 94 selects the best communication link 96 out of multiple links, col. 9, lines 2-4; this is interpreted as a comparison of the shortest paths as well as a comparison of the "best" (i.e., optimal) paths]**;

receiving the data at the optimal node to the client; and relaying the data for delivery to the client **[Fig. 1, host 12 chooses node 36 to deliver content, col. 6, lines 13-22; shortest path and three alternate paths, col. 9, lines 27-30; e.g., I/O switch 94 selects the best communication link 96 out of multiple links, col. 9, lines 2-4; this is interpreted as a comparison of the shortest paths as well as a comparison of the "best" (i.e., optimal) paths]**.

22. With regard to claim 23, Brady et al. discloses the step of transmitting the data through a path of a plurality of nodes before reaching the optimal node **[the data blocks are buffered in node 36, col. 6, lines 43-55; for multiple users, col. 8, line 56 to col. 7, line 2; for large requests, node 38 then buffers the data that is in the node 36 buffers]**.

23. With regard to claim 24, Brady et al. discloses a management center determines the path **[Fig. 1, host 12 chooses node 36 to deliver content, col. 6, lines 13-22; shortest path and three alternate paths, col. 9, lines 27-30; e.g., I/O switch 94 selects the best communication link 96 out of multiple links, col. 9, lines 2-4; this is interpreted as a comparison of the shortest paths as well as a comparison of the "best" (i.e., optimal) paths]**.

24. With regard to claim 25, Brady et al. discloses the step of substituting content local to the optimal node into the data stream **[the data blocks are buffered in node 36, col. 6, lines 43-55; for multiple users, col. 8, line 56 to col. 7, line 2; for large requests, node 38 then buffers the data in the node 36 buffers]**.

25. With regard to claim 26, Brady et al. discloses a method for distribution of a single stream of data to a plurality of clients **[Fig. 1, users 16]** within a class IP address range, comprising the steps of:

determining **[Fig. 1, interpreted as performed by the combination of host 12 and host/server interface node 22; the functionality of both are interchangeable, col. 4, lines 40-42]** an optimal delivery route **[Fig. 3, host 12 maintains tables to enable node assignment and scheduling functions such as node loading (e.g., exceeding node capacity), col. 4, lines 33-53 (interpreted as optimal delivery route); originating nodes I/O switch 94 (of node 22) also performs best route function, col. 9, lines 2-13; host 12 determines if a transmission channel**

to user 16 exists, col. 6, lines 23-25] from a content provider **[Fig. 1, ATM interface/data store node 36]** to a first client within the plurality of clients **[Fig. 1, users 16]**;

wherein determining the first optimal delivery route comprises mapping trace routes **[Fig. 3, communication links 96, col. 8, line 66 to col. 9, line 6]** between a management center and a plurality of nodes **[Fig. 1, ATM interface/data store nodes 36 and 38]** and between the management center and the first client **[Fig. 1, host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25; e.g., I/O switch 94 selects the best communication link 96 out of multiple links, col. 9, lines 2-4; this is interpreted as a comparison of the shortest paths as well as a comparison of the "best" (i.e., optimal) paths]** to determine a first optimal node **[Fig. 1, host 12 chooses node 36 to deliver content, col. 6, lines 13-22; shortest path and three alternate paths, col. 9, lines 27-30; e.g., I/O switch 94 selects the best communication link 96 out of multiple links, col. 9, lines 2-4; this is interpreted as a comparison of the shortest paths as well as a comparison of the "best" (i.e., optimal) paths]**;

receiving the stream of data at a first optimal node to the first client and duplicating the stream of data for delivery to the first client **[the data blocks are buffered in node 36, col. 6, lines 43-55; for multiple users, col. 8, line 56 to col. 7, line 2; for large requests, node 38 then buffers the data in the node 36 buffers]**;

determining an optimal delivery route **[Fig. 3, host 12 maintains tables to enable node assignment and scheduling functions such as node loading (e.g., exceeding node capacity), col. 4, lines 33-53 (interpreted as optimal delivery route); originating nodes I/O switch 94 (of node 22) also performs best route function, col. 9, lines 2-13; host 12 determines if a**

transmission channel to user 16 exists, col. 6, lines 23-25] to a second client within the plurality of clients **[Fig. 1, users 16]**; and

receiving the stream of data at a second optimal node to the second client and duplicating the stream data for delivery to the second client **[the data blocks are buffered in node 36, col. 6, lines 43-55; for multiple users, col. 8, line 56 to col. 7, line 2; for large requests, node 38 then buffers the data in the node 36 buffers]**.

26. With regard to claim 27, Brady et al. discloses that the first and second optimal nodes are the same **["same" interpreted as they are both ATM interface/data store nodes]**.

27. With regard to claim 28, Brady et al. discloses a method for determining an optimal delivery route from a content provider to a client **[Fig. 1, user 16]** within a network **[Fig. 1, multiple networks]**, comprising the steps of:

obtaining a trace route from a management center **[Fig. 1, interpreted as the combination of host 12 and host/server interface node 22]** to the client **[Fig. 1, user 16]**; comparing results of the trace route from the management center to the client to results of a plurality of trace routes from the management center to a plurality of nodes **[Fig. 1, ATM interface/data store nodes 36 and 38]** within the network to provide a hierarchical estimate of a plurality of more efficient network links from nodes within the network to the client **[Fig. 3, host 12 maintains tables to enable node assignment and scheduling functions such as node loading (e.g., exceeding node capacity), col. 4, lines 33-53 (interpreted as optimal delivery route); originating nodes I/O switch 94 (of node 22) also performs best route function, col.**

9, lines 2-13; host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25]; and

selecting the most efficient network link as the optimal delivery route **[Fig. 1, host 12 chooses node 36 to deliver content, col. 6, lines 13-22; shortest path and three alternate paths, col. 9, lines 27-30; e.g., I/O switch 94 selects the best communication link 96 out of multiple links, col. 9, lines 2-4; this is interpreted as a comparison of the shortest paths as well as a comparison of the "best" (i.e., optimal) paths]**.

28. With regard to claim 29, Brady et al. discloses that the step of selecting further comprises performing trace route mappings between the node of the most efficient network link and the client to determine the optimal delivery route **[Fig. 3, host 12 maintains tables to enable node assignment and scheduling functions such as node loading (e.g., exceeding node capacity), col. 4, lines 33-53 (interpreted as optimal delivery route); originating nodes I/O switch 94 (of node 22) also performs best route function, col. 9, lines 2-13; host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25; Fig. 1, host 12 chooses node 36 to deliver content, col. 6, lines 13-22; shortest path and three alternate paths, col. 9, lines 27-30; e.g., I/O switch 94 selects the best communication link 96 out of multiple links, col. 9, lines 2-4; this is interpreted as a comparison of the shortest paths as well as a comparison of the "best" (i.e., optimal) paths]**.

29. With regard to claim 30, Brady et al. discloses that the step of determining further comprises performing trace route mappings between the management center and the nodes **[Fig. 3, host 12**

maintains tables to enable node assignment and scheduling functions such as node loading (e.g., exceeding node capacity), col. 4, lines 33-53 (interpreted as optimal delivery route); originating nodes I/O switch 94 (of node 22) also performs best route function, col. 9, lines 2-13; host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25; Fig. 1, host 12 chooses node 36 to deliver content, col. 6, lines 13-22; shortest path and three alternate paths, col. 9, lines 27-30; e.g., I/O switch 94 selects the best communication link 96 out of multiple links, col. 9, lines 2-4; this is interpreted as a comparison of the shortest paths as well as a comparison of the "best" (i.e., optimal) paths].

30. With regard to claim 31, Brady et al. discloses that the step of determining further comprises accessing a database in the management center containing trace route data for the nodes **[Fig. 3, host 12 maintains tables to enable node assignment and scheduling functions such as node loading (e.g., exceeding node capacity), col. 4, lines 33-53 (interpreted as optimal delivery route); originating nodes I/O switch 94 (of node 22) also performs best route function, col. 9, lines 2-13; host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25; Fig. 1, host 12 chooses node 36 to deliver content, col. 6, lines 13-22; shortest path and three alternate paths, col. 9, lines 27-30; e.g., I/O switch 94 selects the best communication link 96 out of multiple links, col. 9, lines 2-4; this is interpreted as a comparison of the shortest paths as well as a comparison of the "best" (i.e., optimal) paths]**.

31. With regard to claim 32, Brady et al. discloses that the step of determining further comprises accessing a location compiled table for node location data within a zone **[Fig. 3, host 12**

maintains tables to enable node assignment and scheduling functions such as node loading (e.g., exceeding node capacity), col. 4, lines 33-53 (interpreted as optimal delivery route); originating nodes I/O switch 94 (of node 22) also performs best route function, col. 9, lines 2-13; host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25; Fig. 1, host 12 chooses node 36 to deliver content, col. 6, lines 13-22; shortest path and three alternate paths, col. 9, lines 27-30; zone is interpreted as including one user 16; e.g., I/O switch 94 selects the best communication link 96 out of multiple links, col. 9, lines 2-4; this is interpreted as a comparison of the shortest paths as well as a comparison of the "best" (i.e., optimal) paths].

32. With regard to claim 33, Brady et al. discloses that the step of determining further comprises accessing a best performing node index unique router address table **[Fig. 3, host 12 maintains tables to enable node assignment and scheduling functions such as node loading (e.g., exceeding node capacity), col. 4, lines 33-53 (interpreted as optimal delivery route); originating nodes I/O switch 94 (of node 22) also performs best route function, col. 9, lines 2-13; host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25; Fig. 1, host 12 chooses node 36 to deliver content, col. 6, lines 13-22; shortest path and three alternate paths, col. 9, lines 27-30; e.g., I/O switch 94 selects the best communication link 96 out of multiple links, col. 9, lines 2-4; this is interpreted as a comparison of the shortest paths as well as a comparison of the "best" (i.e., optimal) paths]**.

33. With regard to claim 34, Brady et al. discloses a system for distributing a single stream of data from a content provider to a plurality of clients **[Fig. 1, users 16]** through a distributed computer network **[Fig. 1, multiple networks]**, comprising:

means **[Fig. 1, interpreted as the combination of host 12 and host/server interface node 22]** for determining an optimal delivery route **[Fig. 3, host 12 maintains tables to enable node assignment and scheduling functions such as node loading (e.g., exceeding node capacity), col. 4, lines 33-53 (interpreted as optimal delivery route); originating nodes I/O switch 94 (of node 22) also performs best route function, col. 9, lines 2-13; host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25]** from the content provider **[Fig. 1, ATM interface/data store node 36]** to a first client within the plurality of clients **[Fig. 1, users 16]**;

wherein determining an optimal delivery route comprises mapping trace routes between the management center and the first client **[Fig. 1, host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25; e.g., I/O switch 94 selects the best communication link 96 out of multiple links, col. 9, lines 2-4; this is interpreted as a comparison of the shortest paths as well as a comparison of the "best" (i.e., optimal) paths]** and mapping trace routes **[Fig. 3, communication links 96, col. 8, line 66 to col. 9, line 6]** between **[Fig. 3, communication links 96, col. 8, line 66 to col. 9, line 6]** the management center and a plurality of nodes **[Fig. 1, ATM interface/data store nodes 36 and 38]**;

means for receiving the stream of data at a first optimal node the first client and duplicating the stream of data for delivery to the first client **[the data blocks are buffered in**

node 36, col. 6, lines 43-55; for multiple users, col. 8, line 56 to col. 7, line 2; for large requests, node 38 then buffers the data in the node 36 buffers];

means for determining an optimal delivery route **[Fig. 3, host 12 maintains tables to enable node assignment and scheduling functions such as node loading (e.g., exceeding node capacity), col. 4, lines 33-53 (interpreted as optimal delivery route); originating nodes I/O switch 94 (of node 22) also performs best route function, col. 9, lines 2-13; host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25]** to a second client **[Fig. 1, users 16]**; and

means for receiving the stream of data at a second optimal node to the second client and duplicating the stream of data for delivery to the second client **[the data blocks are buffered in node 36, col. 6, lines 43-55; for multiple users, col. 8, line 56 to col. 7, line 2; for large requests, node 38 then buffers the data in the node 36 buffers]**.

34. With regard to claim 35, Brady et al. discloses that the first and second optimal nodes are the same **["same" interpreted as they are both ATM interface/data store nodes]**.

35. With regard to claim 36, Brady et al. discloses a computer readable medium having embodied thereon a program **[inherent]**, the program being executable by a machine to perform the method step for determining an optimal delivery route **[Fig. 3, host 12 maintains tables to enable node assignment and scheduling functions such as node loading (e.g., exceeding node capacity), col. 4, lines 33-53 (interpreted as optimal delivery route); originating nodes I/O switch 94 (of node 22) also performs best route function, col. 9, lines 2-13; host 12**

determines if a transmission channel to user 16 exists, col. 6, lines 23-25] from a content provider **[Fig. 1, ATM interface/data store node 36]** to a client **[Fig. 1, user 16]** within a network **[Fig. 1, Network 52 and ATM network 14]**, the method steps comprising:

obtaining a trace route from a management center **[Fig. 1, interpreted as the combination of host 12 and host/server interface node 22; the functionality of both are interchangeable, col. 4, lines 40-42]** to the client **[Fig. 1, user 16]**; determining most efficient network links from the nodes **[Fig. 1, ATM interface/data store nodes 36 and 38]** within the network to the client **[Fig. 3, host 12 maintains tables to enable node assignment and scheduling functions such as node loading (e.g., exceeding node capacity), col. 4, lines 33-53 (interpreted as optimal delivery route); originating nodes I/O switch 94 (of node 22) also performs best route function, col. 9, lines 2-13; host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25]**;

comparing the results of the trace route from the management center to the client to results of a plurality of trace routes from the management center to a plurality of nodes within the network to provide hierarchical estimate of a plurality of more efficient network links from nodes within the network to the client **[Fig. 1, host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25]**; and selecting the most efficient network link as the optimal delivery route **[Fig. 1, host 12 chooses node 36 to deliver content, col. 6, lines 13-22; shortest path and three alternate paths, col. 9, lines 27-30; e.g., I/O switch 94 selects the best communication link 96 out of multiple links, col. 9, lines 2-4; this is interpreted as a comparison of the shortest paths as well as a comparison of the “best” (i.e., optimal) paths]**.

36. With regard to claim 37, Brady et al. discloses that the step of selecting further comprises performing trace route mappings between the nodes of the most efficient network links and the client **[Fig. 1, host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25]** to determine the optimal delivery route **[Fig. 1, host 12 chooses node 36 to deliver content, col. 6, lines 13-22; shortest path and three alternate paths, col. 9, lines 27-30; e.g., I/O switch 94 selects the best communication link 96 out of multiple links, col. 9, lines 2-4; this is interpreted as a comparison of the shortest paths as well as a comparison of the "best" (i.e., optimal) paths]**.

37. With regard to claim 38, Brady et al. discloses a method for determining an optimal delivery route from a first computing device **[Fig. 1, node 24 (accesses its direct access storage disks (DASD) 28 and 30 and) provides the content, col. 6, lines 28-34]** to a second computing device **[Fig. 1, users 16]** within a network **[Fig. 1, Network 52 and ATM network 14]**, comprising the steps of:

obtaining a trace route from management center **[Fig. 1, interpreted as the combination of host 12 and host/server interface node 22; the functionality of both are interchangeable, col. 4, lines 40-42]** to the first and second computing devices **[Fig. 3, host 12 maintains tables to enable node assignment and scheduling functions such as node loading (e.g., exceeding node capacity), col. 4, lines 33-53 (interpreted as optimal delivery route); originating nodes I/O switch 94 (of node 22) also performs best route function, col. 9, lines 2-13; host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25]**;

determining most efficient network links from nodes **[Fig. 1, ATM interface/data store node 36]** within the network to the first **[Fig. 1, node 24 (accesses its direct access storage disks (DASD) 28 and 30 and) provides the content, col. 6, lines 28-34]** and second **[Fig. 1, users 16]** computing devices **[Fig. 3, host 12 maintains tables to enable node assignment and scheduling functions such as node loading (e.g., exceeding node capacity), col. 4, lines 33-53 (interpreted as optimal delivery route); originating nodes I/O switch 94 (of node 22) also performs best route function, col. 9, lines 2-13; host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25]**; and

performing trace route mappings between nodes of the most efficient network links and the first and second computing devices **[Fig. 3, host 12 maintains tables to enable node assignment and scheduling functions such as node loading (e.g., exceeding node capacity), col. 4, lines 33-53 (interpreted as optimal delivery route); originating nodes I/O switch 94 (of node 22) also performs best route function, col. 9, lines 2-13; host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25]**.

38. With regard to claim 39, Brady et al. discloses a system for efficient distribution of data to a client **[Fig. 1, user 16]** through a distributed computer network **[Fig. 1, multiple networks]**, comprising:

a management center **[Fig. 1, interpreted as the combination of host 12 and host/server interface node 22; the functionality of both are interchangeable, col. 4, lines 40-42]** connected to the network **[Fig. 1, Network 52 and ATM network 14]** for determining an optimal delivery route to the client **[Fig. 3, host 12 maintains tables to enable node**

assignment and scheduling functions such as node loading (e.g., exceeding node capacity), col. 4, lines 33-53 (interpreted as optimal delivery route); originating nodes I/O switch 94 (of node 22) also performs best route function, col. 9, lines 2-13; host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25] and directing the data along the optimal delivery route **[Fig. 1, host 12 chooses node 36 to deliver content, col. 6, lines 13-22; shortest path and three alternate paths, col. 9, lines 27-30; e.g., I/O switch 94 selects the best communication link 96 out of multiple links, col. 9, lines 2-4; this is interpreted as a comparison of the shortest paths as well as a comparison of the "best" (i.e., optimal) paths]**; and

at least one router device **[Fig. 1, ATM interface/data store node 36]** connected to the network for replication of the data for delivery to the client **[the data blocks are buffered in node 36, col. 6, lines 43-55; for multiple users, col. 8, line 56 to col. 7, line 2; for large requests, node 38 then buffers the data in the node 36 buffers]**, wherein the optimal delivery route is determined by performing mappings to and from the at least one router device and the management center **[Fig. 3, communication links 96, col. 8, line 66 to col. 9, line 6]**.

39. With regard to claim 46, Brady et al. discloses that the management center downgrades lower priority clients from a higher quality of service network link to a less optimal network link when a higher priority client requests use of the higher quality of service network link **[the data blocks are buffered in node 36, col. 6, lines 43-55; for multiple users, col. 8, line 56 to col. 7, line 2; for large requests, node 38 then buffers the data in the node 36 buffers]**.

40. With regard to claim 47, Brady et al. discloses that the at least one node is used to buffer and resynchronize multiple streams of content **[the data blocks are buffered in node 36, col. 6, lines 43-55; for multiple users, col. 8, line 56 to col. 7, line 2; for large requests, node 38 then buffers the data in the node 36 buffers]**.

Claim Rejections - 35 USC § 103

41. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

42. Claim 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brady et al. as applied to claims 1-13, 18-39, and 46-47.

43. With regard to claims 14-17, Applicants have not disclosed that changing the type of data delivered from video-on-demand to telephone data, video conferencing data, live media content, or general internet data solves any stated problem or is for any particular purpose. It appears that the different types of data would be delivered equally well as the video data delivered to multiple terminals by the multi-node media server disclosed in Brady et al. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brady et al. to use the same delivery methodology for the multiple client terminals because such

modifications are considered a mere design choice consideration, which fails to patentably distinguish over the prior art of Brady et al. In addition, changing the type of low latency/high QOS data delivered in Brady et al. is interpreted as an optimum value for a known process. A discovery of an optimum value for a known process is obvious engineering. *See* In re Aller, 105 USPQ 233 (CCPA 1955).

Response to Arguments

44. Applicants' arguments filed on June 25, 2008 have been fully considered but they are not persuasive.

45. With respect to claims 1-5, 7-18, 46 and 47, Applicants state that Brady et al. fails to disclose how the shortest or closest node is determined or selected **[See Applicants' Amendment dated 25 June 2008, page 14, paragraph 5 to page 15, paragraph 1]**. Applicants argue, apparently, that Brady et al. fails to compare the one set of traces routes to a second set of trace routes **[See Applicants' Amendment dated 25 June 2008, page 15, paragraphs 2-3]**. Applicants make the same arguments for claims 19-39 **[See Applicants' Amendment dated 25 June 2008, page 16, paragraph 2 to page 20 paragraph 2]**. The examiner respectfully disagrees.

46. First, as noted in the rejection of claim 1 above, Brady discloses the combination of host 12 and host/server interface node 22 **[Fig. 1; functionality of both are interchangeable, col. 4,**

lines 40-42] which map the trace routes between host 12 and the nodes **[Fig. 1, host 12; Fig. 3, communication links 96, col. 8, line 66 to col. 9, line 6]** and the trace routes between host 12 and the client **[Fig. 1, host 12 determines if a transmission channel to user 16 exists, col. 6, lines 23-25]** and compares each trace route to determine optimal delivery such that host 12 chooses node 36 to deliver content **[Fig. 1, col. 6, lines 13-22]** by using the shortest path and three alternate paths **[col. 9, lines 27-30]**. For example, I/O switch 94 selects the best communication link 96 out of multiple links **[col. 9, lines 2-4]**. This is interpreted as a comparison of the shortest paths as well as a comparison of the "best" (i.e., optimal) paths.

47. Second, if applicants are arguing that the trace routes in one leg (between the management center and the content node) are compared to the trace routes in the other leg (between the management node and the client), such limitations are not in the claims. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies [i.e., the trace routes in one leg (between the management center and the content node) are compared to the trace routes in the other leg (between the management node and the client)] are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

48. Third, if applicants are arguing that the optimal routes (i.e., shortest or best routes) must be determined/computed in a specific way, such limitations are not in the claims. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is

noted that the features upon which applicant relies [the optimal routes (i.e., shortest or best routes) must be determined/computed in a specific way] are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

49. Accordingly, **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

50. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

51. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

(a) Varadarajan et al. (USP 7,415,527), system and method for piecewise streaming of video using a dedicated overlay network.

52. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARK A. MAIS whose telephone number is (571)272-3138. The examiner can normally be reached on M-Th 5am-4pm.

53. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing F. Chan can be reached on 571-272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

54. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

October 14, 2008

/Mark A. Mais/
Examiner, Group Art Unit 2619

/Wing F. Chan/
Supervisory Patent Examiner, Art Unit 2619
10/14/08